

1 Interview: Andrew Scheps on the evolution of audio technology

2 Andrew shares his views on the evolution of audio technology, what makes a song a hit, AI technology and using Regroover and drumatom

3 Andrew Scheps is a grammy award winning mixing engineer, as well as a renowned producer & record label owner. Having collaborated with some of the biggest names in the industry such as Jay Z, Red Hot Chili Peppers, Adele, Justin Timberlake & many more, he is considered to be a true legend in the field. We had an interview with him and we talked about the evolution of audio technology, what makes a song a hit, AI technology, Regroover and why he prefers drumatom² over other options when it comes to drum editing.

4 **Q: You have been in the industry for quite a long time. What was the biggest shift in audio technology that completely changed things?**

5 Obviously digital audio is the biggest change. Figuring out how to record audio in the first place, the invention of analog recording and then multi-track recording, that made record making instead of just capturing things. So being able to overdub and then mix and all of that. That was all invented in the analog domain, but then obviously the biggest shift has just been computers and digital audio, the ability to capture everything. Because at the beginning with the digital audio, there were digital tape machines which worked very much like analog tape machines, but without all of the issues with noise and alignment and things like that, and there were computer programs that could edit, but you would transfer some stuff in and they couldn't handle a lot of audio, so I think when digital audio on computers got to the point where you didn't need a tape machine, whether it was analog or digital, that was like, the really big turning point. So after ADATs, after 3324s, after all of the early digital recorders, when it became the computer only, that was a huge deal. And then after that was - and I'm pretty sure Digidesign was the first one to do it in a recording way - when they introduced TDM so the actual mixer and processor within the computer and that all being realtime. Waveframe had some of it, Synclavier had a little bit of it, but this was the first time where you took everything about the traditional record-making process and had it all in the computer and at that point, I think things really went crazy. So I think that's that got to be like, the invention of the wheel moment.

6 **Q: You have had the chance to observe the "digital revolution" while it was happening. You were learning how to use all that new technology as it was still evolving. Do you think that this was helpful to your career?**

7 Yes, I think so because I think that if you'd spent a very long time on the analog machines, the early digital machines did some things that were

..Hinzukommen benötigter Featu

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really incredible, but they were also a real pain to use, they didn't always work, they didn't necessarily sound great, so there were a lot of teething troubles at the beginning which - if you'd been schooled in the analog here and didn't really see the potential of what could happen with the digital gear - you might have just said "Well, forget it, this stuff is terrible" and then you'd be waiting years and years until that had become a mature sort of area and then you'd have to learn it all at once, whereas I just learned it as it was coming out, so that was great. So that formed my career, but definitely when Pro Tools specifically got powerful enough to do an entire record just using the computer, that was a massive change for me. Because even in my own little, tiny home studio, I had D888s and I was transferring stuff back and forth and I was using sequencing software separate from Pro Tools and it was all quite difficult. It involved lots and lots of pieces to the puzzle and being able to take the recorder and some of the mixer and put it all in one place so that your recording had all of that was a huge change in how you worked and how you organized things. And since then, it's just been, I think, chipping away so that more and more of the process gets sucked into that box until now. I mean, somewhat famously, I mix completely on the computer now. I don't use any equipment at all because finally even the biggest session can run on a single computer, which is new.

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Q: You have said in an interview that whoever wants things to go back to analog, has obviously never worked in analog. What's your point on this?

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Well yeah, that was about analog tape specifically. I mean, analog equipment, compressors and microphones, I still use 'em all the time, but analog tape, there's a lot of romantic ideas about how great it is and I just remember being so happy when I didn't have to do edits on tape anymore.

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Q: What's your workflow like?

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I don't know, in some ways everything is exactly the same. I have a template session that I start my mixes with and I usually start with the drums. There are parts of my process that stay the same, but every mix is different. As you start on a mix, you start to have ideas about how you want it to end up and those ideas are always coming from different places. It could be something to do with the vocal effects or the way the drums are gonna sound or the way the guitars are gonna be in the chorus or just like, I'm gonna go from mono to really wide stereo, that sort of thing. So then that drives every mix, the ideas you have about what you want to do. And then in terms of my day, it's total chaos all the time. And as you know trying to schedule this interview, things are happening all the time because we're also in the process of renovating the house that we bought, so my time off is working. Like, when I don't have anything else to do, that's when I mix, which is interesting because usually, the mixing is the work. I wake up in the morning and I mix until I have to do something else, but then that's the important thing and that's what I schedule around and for the last six months, it's been the opposite, but it hasn't really changed. When I sit

down, within about a minute, I'm mixing. I don't have to get ready or anything like that. As soon as I'm doing it, I'm doing it and then it could be for 10 minutes, it could be for three hours, whatever it is, I'm working and then I run off and do something else.

12 **Q: Do you prefer working on a project from scratch or does it have to be on a specific ongoing level in order to make the most out of it?**

13 Well, if you're doing it from scratch, that's really production, that's not mixing. If someone just sent me a demo of a song and then I built it up, that would be producing the song, and then the mixing would happen when I was done producing, though you can do them at the same time. So no, they've usually completed recording to what I get to mix, so they may not have the clearest idea of how it's supposed to finish, but they have some idea. Every once in a while you get something and you realize they really didn't have an idea or they had 15 ideas and did all of them, and so you have to try and figure out how to make everything work together, but usually there is a clue in it. I love when people have been working in Pro Tools because I can just hit play and everything is just how they left it and you really get a sense of what it is they were trying to do and what direction they were going in. So then I can pick up where they left off, add whatever it is that I do on top of that, but really complete their thoughts, that's my favorite kind of mix; it's to get a really good idea of what they want. And to be able to actually make it happen, that's great, that's a really great feeling. Sometimes though, starting from scratch can be amazing because you really get to be creative, but for that, you have to have a really special relationship with the music. I can't do that on every record. I don't necessarily know where I would take things, but there are certain records where I've had a lot of license to do whatever I wanted and it's been the perfect situation for me to do whatever I wanted.

14 **Q: What advice would you give to artists when it comes to communicating their musical vision to producers?**

15 That's a really difficult thing to do, to be honest. I think the more you talk about it, the less clear it gets. There's a great quote and people have credited it to lots of different people, but someone said Frank Zappa said it and he said "Talking about music is like dancing about architecture" because it just doesn't make any sense. The words you use mean different things to every single person because you're trying to describe feelings and ideas. They aren't concrete things. It's easy to say I want the drums to be big, but even that, that word "big" could mean so many different things. Every single person who listens to drums hears them as being big because of something else, it could be compression, it could be reverb, it could be just loud cymbals, it could be anything. So in a way, the more you talk about it, the more confused, I think, it gets. I think that there has to be this trail of breadcrumbs in the recording itself. You have to actually get at least the beginning of the idea that you've got for the recording into the recording.

You can't just record all the right notes and then say now I want it to be like this. And if you do leave it in a weird state, then I think you've got to at least do a rough mix where you say okay, this is what I want because that way I have an audio example of what it is you think you want and then I try and figure out "well, what was important about that?" and usually, it's nothing to do with the way it sounds, but it's to do with the balance, it's to do with how much effect there is on the vocal, that kind of thing, and then that will tell me what you want. I almost have gotten to the point where I don't like it when I get an email at the beginning of a project with people listing all of the ideas they have for how they want the record to be. I love it when I get specific things like oh, by the way, the guitar solo in this song, we want it to be psychedelic, and that is enough for me to make something up.

16 **Q: Do references help?**

17 Well, you would think so, but it's almost like using the word "big". If someone says I want this to be like Led Zeppelin III, well okay, but which song on Led Zeppelin III? And then they say which song, and then you say well okay, but what about it? And I'll think that it's something to do with the drums and the guitars because that's the iconic thing about a Led Zeppelin record, let's say, like When the Levee Breaks. Okay, that's all about the drums, so I might chase that, but it could be that they really like the delay on the vocal, but they want the drums to be totally different, so even a reference can be really confusing.

18 **Q: Do you know in advance when a track will be a hit?**

19 No, I mean, every once in a while there are songs that I just absolutely love and some of them have been really successful and some of them haven't, so I think the biggest trait of the really successful producers is that everything that they like is something that most of the people on the planet like, and that's why they're successful because it's just about your own personal taste. My personal taste tends to go towards darker and weirder musically, so there'll be things that I love that will be the one track on the album that no one ever listens to, but there are times, even if I don't like it, where I can tell "oh boy, this is gonna be huge!" 'cause it's got that little earworm melody or there's something about it where you know if it gets some promotion, it gets out into the world, it's going to be big and on that sort of thing, I'm usually right because also, you know the artist you're working with is gonna get a huge amount of promotion. They're gonna be on tour, so it's gonna get all the push that it needs to be huge 'cause very, very few songs can be huge without some help.

20 **Q: What are the main differences between US and UK music and music industry?**

21 There are some sonic differences, like, in the way on rock albums people hear drums. People use a lot more distortion over here on drums than they do in the states. In the states, they're a bit clearer, things like that. There's

some things - and obviously those rules don't hold true for every album - but it's interesting how some of that stuff has survived. There is a sound to British rock records, which is different from American rock records. But really, other than some weird aesthetic things like that, there's no difference at all. And I was working with people from the UK and all over the world when I was in LA, and when we first moved to the UK, I didn't even tell anybody 'cause I wasn't sure if we were moving here full time or if we were just gonna be here for a few months and things, and so I didn't say a word and my work didn't change. Especially for mixing, I can be anywhere, which is why I can be two hours outside of London. So there isn't a difference. There's a little difference in attitude usually in the American market, just like America in general, because they're surrounded by two oceans and they've only got two countries bordering them. There is a little bit more of an insular view. So people think like, well, I only need to appeal to the American market with things. They don't necessarily think globally. It's not completely true, but it's just a little bit in the mindset, whereas in England, everybody is very aware of the 30 countries you could fly to within an hour. So there's just more of a global feel. There tends to be a little bit more, I don't know, like, weird musical influence that will creep into things sometimes where you wonder "well, where did that happen?" It just turns out that there was some guy in this guy's neighborhood when he grew up who played oud and that doesn't necessarily happen as often. But really, I'm sure for every single thing I'm saying, you could find a thousand examples that contradict it. So I don't know that there's a massive difference, really.

22 **Q: If you could somehow time-travel and pay your 20-year-old self a visit, what would you like to tell him?**

23 I don't know, I think-- I'm sure I could find things that I would say, oh, I should do this differently or do that differently, but I'm actually pretty happy with where I've ended up. I've been incredibly lucky in my career, but also in my personal life. I have an amazing family, my wife's incredible, my kids are great. I would probably tell my 20-year-old self to be a better father, spend a bit more time with the kids and not work so much, but if I did that, I don't know what would have changed for what I did. I can look back on plenty of things and say oh, that wasn't so great, shouldn't have done that, but I think it's all part of the whole package of what I'm doing now. So no, I don't think I would really change anything, so I don't know what I'd say, probably like, start growing the beard a little earlier or something like that, I don't know.

24 **Q: What are you looking for in the tools you use?**

25 Well obviously the sound of it, like, I mean, that's, what do I look for in a compressor? Well, it's the sound and there are lots of different sounds you want to get out of a compressor, but in general, it's the way the interface is

put together, so it needs to be easy to use and not even necessarily easy to use. It could be incredibly complicated, but if it's well laid out, I don't mind if it's complicated. I hate if I have to always be looking at the manual 'cause I think I'm pretty good at figuring out how software thinks to the point where you don't know that there's a command to do something, but there ought to be and when you find it like yep, there it is and you keep going. So I hate it when there's a tool that is counterintuitive to me because then I won't use it. If it's difficult to use, I won't use it unless it is the only thing in the world that can get a certain job done.

26 **Q: What's your opinion on using a single-knob plug-in?**

27 Saves me time, but it's also not breaking my train of thought. Because whenever I'm processing something, no matter what it is, if it's compression or reverb or de-noising, it's always part of my creative process of mixing. I'm trying to make the mix sound like something and if I have to stop and figure out how to do something, then I've lost the flow and I probably even forget why I'm doing the thing I'm doing. So I would much prefer to have a process that just seems part of my flow so it ends up to the point where I end up using a very small set of tools over and over and over until I come up against something that I know those tools can't fix just because it's easy and it's really, really fast for me and that's the most important thing.

28 **Q: Which of our plugins are you using and what do you find unique about them ?**

29 Well, all of the noise reduction stuff, the de-reverb, the de-noise.. and I've been playing a lot with your newer stuff that separates the loops and also that can take away the bleed from the drums. So those tools, what I love about those -and this is kind of a very different thing from what I was talking about before - is that all of your plugins take something that could be incredibly complicated and it does not let you see how complicated the process is. I'm sure that under the hood, what's going on is really incredibly complicated because it isn't as simple as some math. It's not just oh, it's EQ or it's compression - it has to know what's going in to know what to do to it on the way through instead of just saying "no matter what comes in, this is what I do". It takes those and makes them in an interface that is so simple that it's just "well, do you want me to do more or less of this?" So it's this idea of taking this incredibly complex process and not simplifying it, but just hiding it because the knob that you see, you could think of it like it's an EQ or a compressor, just "oh, I want more of that" or "I want less of that" and you have no idea what happens when you turn that knob. That's what I love about it. Because that lets me think about what's coming out of the output and what it's doing in terms of what I'm gonna hear, not in terms of what it has to do to get it done, if that makes any sense.

30 **Q: What is it that you prefer about drumatom² over other options?**

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drumatom² is actually very, very simple once you're using it, but to use it within a Pro Tools session that has edited drums and things like that is a little bit cumbersome still. You do have to get your audio out and analyze and then back in, so there's a little bit to the workflow that makes me not use it until I have to. But what's amazing is I'll try everything else under the sun, and the biggest issue is always gonna be hi-hat bleed on the snare drum track, that's always the worst thing with drum recordings. I will try De-essing, I will try multi-band compression, I will try taking other microphones, flipping 'em out phase, and trying to time align to -- I mean, tons of things that won't work but only because they're really, really quick to implement and just try and like okay, is that gonna work, is that gonna work, is that gonna work? And then eventually I say no none of 'em are gonna work and then I do the preparation and I go into drumatom² and it WILL work. So that's the genius of drumatom², it's that it will do stuff that nothing else will do, but because it's such a massive amount of data crunching basically, it doesn't integrate as quickly, but it definitely is the thing that I use when I absolutely cannot solve it any other way.

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Q: As noise has become a part of today's records, what's your process on restoration? Have you tried our own ERA plug-ins?

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What happens when people are recording at home or you get an artist who's making his own record, even if they go into a studio, you don't have this gateway that you used to have where only experienced engineers were making records for the most part. You know, now anybody makes records, but what that leads to is people are recording in rooms with the fans on their computers or there's ground hum. Things are so much noisier now because you aren't in a studio in a controlled environment with someone who knows how to sort that stuff out, so I do spend a huge amount of time de-noising and trying to sonically clean stuff up and what's great with having all of the different tools is they all think differently. So obviously your noise reduction is not the only noise reduction, but it thinks in a completely different way than all the other noise reduction tools. So when I've got something that's a little more difficult, I will try every single noise reduction plugin that I've got, and quite a few times, yours works better than all the rest of 'em. So great, turn the knob and move on, but it's this idea of having - like I was saying before - this tool set that can keep you being intuitive and just listening. So I know the problem I want to fix but it's not like "oh, if I could just get rid of this noise, then my mix is finished", it's more "if I could just get rid of this noise, then I could actually start mixing because it's in my way". So that's what's great about the Noise Remover and the Reverb Remover as well. You get something that just feels wet and it isn't necessarily reverb, it could be anything - I've used it to just clean up the sustain on toms or pianos, something where it's just ringing a little bit too much and your plugin will see that ringing as reverb in a way that some of the other ones don't. So you can very quickly tighten something up. So yeah, but it's just different tools for different tracks and it happens a couple

hundred times a day where I've got to figure out what's gonna work, so the faster I can get through it and see if it's the right thing, the more likely I am to actually use it.

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Q: What's your feedback on Regroover?

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It's crazy, and I've actually used it to do other things, just to see what would happen. Like, I've put it on some acoustic guitar tracks that had bleed just to see if it would isolate the acoustic guitar more and it actually does. Like, the other three stems are total garbage and sometimes you need a little bit of 'em because it decides some of the pick noise on the guitar is separate from the guitar itself, so you have to re-blend to get your acoustic guitar back, but you can change things and you can get some crazy effects where it will just completely hollow out the sound of an instrument because it'll take the fundamentals and put it on one stem and then all the harmonics are sitting on another stem and you can rebalance that, so you can get crazy-sounded things out of it. But I think - and I was actually thinking about this over the last week or so - what is great about it is like, at the beginning of, I would say, the second wave of digital processing - which to me, started with Auto-Tune and then progressed through Melodyne - this idea of being able to completely separate formant from pitch from time and take these elements of sound and separate them, manipulate them, and then put it all back together and have something that still sounds good. That's one branch of this new digital audio technology, but the other branch is software that learns and what it's doing is it listens the way humans listen. Because a human can very easily decide "oh, I'm gonna listen to the bass", "now I'm gonna listen to the guitar", "now I'm gonna listen to the drums", and can zone in on different instruments and separate them in your head and that's the way Regroover works; It listens the way humans listen and that's how it can split stuff up. It's not enough to say "oh, anything that's transient is a drum and anything that is steady state, that'll be an instrument and I'll split it that way", because you would be taking all of the tone off of the drums and putting it in with the other instruments. So it's not about that, it's actually figuring out how to compartmentalize the different elements within a complex recording and it's incredible. I mean, I've tried it on whole mixes just to see what it would do, and the things it picks out as being separate, sometimes it's completely wrong and sometimes it has done stuff that's astonishing. Like, you get the bass completely clean all on its own. Well, how the hell did it do that? I know there are lots of people who are really scared of the rise of the robots, but the idea that the software can listen better than you can..there's no way you could tell a computer how to separate things the way the plugin is separating. You have to tell the computer how to listen and then it decides how to separate, and that, I think, is a huge leap forward. And Regroover, it's just kind of scary in how cool its decision making is.

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